



## Method Statement

Note: This method statement must be read in conjunction with any developed task statements.

Method Statement Title:  <b>Impoundment Licence and Ordinary Watercourse Consent (OWC) Works.</b>		Scheme Title: <b>1W7000AP Clydach Reservoir Discontinuance Scheme</b>		
		RA/MS Number: <b>6478</b>		
		Start Date: <b>February 2025</b>		
Accepted for use by:  Max Davies	Job title:  Site Agent	Signed:  		Date:  16/10/2024
Accepted for use by:  Simon Fisher	Job title:  Project Manager (Morgan Sindall)	Signed:  		Date:  17/10/2024
Issued by:	Job title:	Issue:  First Issue	Status  Accepted For Use	Issue Date:
Review Process (This method statement accepted as current working document).	Name (Print)	Signed:	Status	1 <sup>st</sup> Review Date:
	Name (Print)	Signed:	Status	2nd Review Date:
Issued to:	Job title:	Please acknowledge receipt of your copy of this MS by signing and returning the transmittal note.		Transmittal date:

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 1 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

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## Method Statement

Control sheet:

### Risk Assessment / Method statement – Tracking Sheet

Name	Job title	Signature	Status	Comments
Simon Fisher	Project Manager		A	Included
Michael Sellers	SHEQ manager			

### Review process

No	Prompt List	Yes	No	In Part	N/A
1.	Unique project specific number and title identified for the document?	✓			
2.	Does the method statement / risk assessment include suitable arrangements if sub-sub contractors are involved?	✓			
3.	Authorisation and distribution personnel identified?	✓			
4.	Brief overview including location and duration of the works described?	✓			
5.	Specific Risk Assessment † attached and satisfactory? Are all the hazards/environmental impacts identified? Have all the risks been evaluated and controls identified?	✓			
6.	High risk/safety critical / COSHH activities identified / controls specified? (Controls eg – Statutory permits/ licences, Security, Testing / commissioning / special training)	✓			
7.	Scope of works identifying / listing all activities? Philosophy identified? Are all parameters identified / listed?	✓			
8.	Temporary Works schemes identified? Philosophy identified? Temporary work drawings listed including relevant calculations? Permits required? Interfaces identified?	✓			
9.	Names / titles / contact details of key personnel / supervisors responsible?			✓	
10.	Resources identified e.g. personnel, supervision, equipment, plant, materials? Craneage – lifting plan in place?	✓			

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 2 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Method Statement

	Lifting equipment – plan / certificates in place? Access / scaffolding requirements clearly set out?				
11.	Induction / training / permit requirements identified? Permit issue authorisation regime identified? Daily briefing and toolbox talk regime identified?	✓			
12.	General site requirements identifying access / egress / traffic measures? Details of services / works isolation? PPE / evacuation requirements identified? Welfare / first aid facilities identified?	✓			
13.	Monitoring & compliance Monitoring by whom Enforcement – how by whom- equipment (meters / sampling)	✓			
14.	Interfaces / security of the client / public / other contractors identified?	✓			
15.	Environmental controls / Waste Controller identified?	✓			
16.	QC monitoring and inspection / testing regime identified? I&T Plans refs				✓
17.	Contingency plan e.g. emergency / fire / rescue / spill response identified?	✓			
18.	Any special conditions identified e.g. <b>consent required from local authority.</b>	✓			
19.	Management of Change – process in place to identify change requirements	✓			
20.	Review date as required	✓			
21.	Approvals statement incorporated?	✓			
22.	Confirmation of Operatives briefing / Operatives induction sheet incorporated?	✓			
23.	Any other (specify)?		✓		
† Any Risk Assessment shall be amended / confirmed as site specific. * Status A Work can proceed as described B Work can proceed when comments are incorporated C Resubmit and agree before work can proceed					
Comments					

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 3 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Method Statement

<b>Contract Title</b>	<b>Clydach Reservoir Discontinuance scheme</b>
<b>Contractor</b>	<b>Morgan Sindall.</b>
<b>MS No</b>	<b>6478</b>

This method statement has been developed further to the completion of the following references risk assessments:

<b>Risk Assessment Number</b>	<b>Title</b>
6478	<b>Ordinary Watercourse Consent (OWC) &amp; Impoundment License Works.</b>

### Section 1 – General Details


<b>Scope of Works:</b> <p>The purpose of this method statement is to detail the following works that are in or near Nant Clydach water course.</p> <p>The watercourse is located alongside the existing Clydach reservoir and is a tributary of the River Taff.</p>
<b>Location of the Works (Use sketch boxes if required):</b> <p>The location of the river can be seen below, in <b>Figure 1</b>, highlighted in blue.</p>

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 4 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

Method Statement



Figure 1: Watercourse location shown in Blue.

Prepared by:	Max Davies		
Position held:	Site Agent		
Signed:		Date:	16/10/2024
Review date:	16/10/2025		

Work Supervisor(s);	Senior general foreman (TBC) and senior/section engineer (TBC).
Refer to Method Statement Tracking and Content Sheet	

Section 2 – Programme of Operations

Document Reference		Process Parent	Rev Status	Doc Owner		Date	Page
SH1 FRM 04		SH PRO 1	Rev 01	Carole Bardell-Wise		Sept 2022	Page 5 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail	Engineering Solutions	Magnor Plant



## Form

## Method Statement

<b>Start date / time:</b>	February 2025				
<b>Preceding Works to be Completed:</b>	Construction of temporary access roads, compound (including welfare) and felling of trees downstream of the water course.				
<b>Duration:</b>	12 months to construct full scheme approximately.				
<b>Permit required:</b>					
<b>Permit to Work (General)</b>	<b>No</b>	<b>Permit to Enter (Confined Spaces)</b>	<b>No</b>	<b>Permit to Dig</b>	<b>Yes</b>
<b>Hot Work Permit</b>	<b>No</b>	<b>Out of Hours Work Permit</b>	<b>No</b>	<b>Other (specify):</b> <b>Permit to Pump</b> <b>Environmental Permit to Clear</b>	<b>Yes</b> <b>Yes</b>
<b>Ordinary Watercourse Consent (OWC) – from the local authority.</b>					

### Section 3 – Personnel

Include details of all personnel involved in the task and any special training, skills or qualifications required

Name	Role	Competence Details
Max Davies	Site Agent	Civil engineering site manager (CSCS), appointed person for lifting (CPCS), confined space trained (City and Guilds), NRSWA supervisor, SMSTS, First aid at work, Temporary Works Co-Ordinator (TWC), Services locator, NEBOSH and environmental awareness training.
Neil Derrick	Senior General Foreman	Civil engineering site manager (CSCS), confined space trained (City and Guilds), NRSWA supervisor, SMSTS, First aid at work, Temporary Works Supervisor (TWS), fire warden

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 6 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

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## Method Statement

		and environmental awareness training.
TBC	Senior/section engineer.	Civil engineering site manager (CSCS), confined space trained (City and Guilds), NRSWA supervisor, SMSTS, First aid at work, Temporary Works Supervisor (TWS), services locator and environmental awareness training.

### Section 4 – Safe System of Work to be Adopted

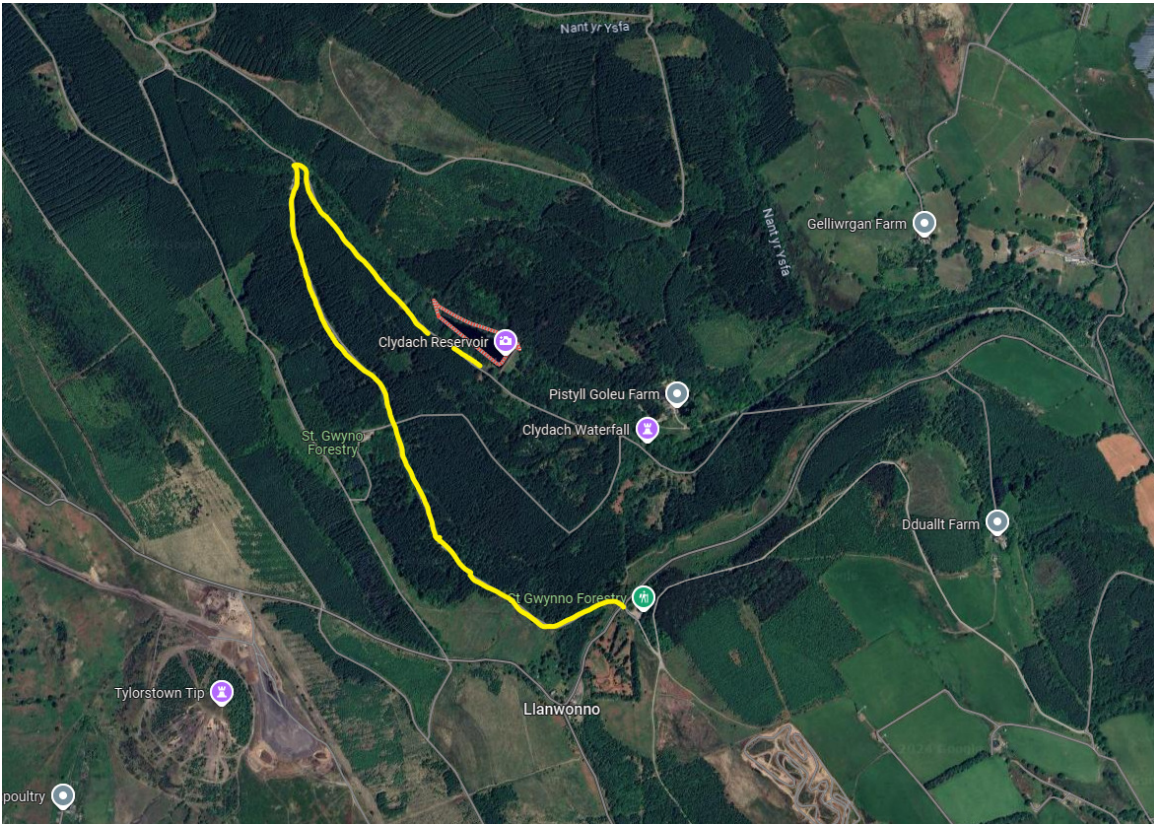
Refer to prompt list on the tracker sheet.

<b>4.0</b>	<b>Introduction</b>
4.0.1	This method statement (MS) outlines initial proposals for this activity. Where it is identified that there is a need to change the method of work due to unforeseen circumstances for example, then revision, authorisation and issue will follow the same procedure as the original. This method statement is only valid when the person who has prepared it and the person who has authorised it have signed the front sheet accordingly.
4.0.2	Task Statements (TS) will be developed for specific tasks required to carry out the works, as and when required. The MS and TS should be read in conjunction with the site specific plan and the construction programme. The MS and TS are “live” documents and will be updated as required, with newly identified risks.
4.0.3	The Responsible Person must be in possession of an approved method statement and task statement for the works. The Agent and Foreman / Supervisor shall ensure that the works proceed according to this approved method statement and subsequently developed task statements.
<b>4.1</b>	<b>Risk Assessment</b>
4.1.1	Template displayed in Appendix A.
<b>4.2</b>	<b>Induction / Training</b>
4.2.1	All site personnel will be familiarised with the site and made aware of any hazards, by way of a site specific induction.
4.2.2	All operatives working on the tasks described in this method statement, risk assessment and any associated task statement must be briefed on its contents. Operatives must sign

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 7 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

**\*\*Uncontrolled when printed\*\***





## Method Statement

	the attached briefing attendance sheet to confirm that they have been briefed and understood the contents.
4.2.3	Daily briefings shall be given to the operatives prior to work commencing. Toolbox talks will be planned monthly and given to all operatives on a weekly basis. The Morgan Sindall designated person must be in possession of an approved MS and TS before issuing any permits. All operatives must be briefed on the requirements of the permit before work commences.
<b>4.3</b>	<b>General Site Requirements</b>
4.3.1	<p>Access and Egress</p> <ul style="list-style-type: none"> <li>Access and egress will be provided using the existing forestry haulage access roads and new temporary haul roads which will be constructed in advance of these works under a separate Risk Assessment and Method Statement (RAMS). The main forestry haul road is shown below in yellow. Access to facilitate in the discontinuance for the Clydach reservoir will be from the existing forestry haul road down into the reservoir basin once drained.</li> </ul>  <p><b>Figure 2:</b> Access track to site compound (shown in yellow).</p> <ul style="list-style-type: none"> <li>All tree and stump removal will be completed by an approved sub-contractor in accordance with their own RAMS. The sub-contractors RAMS will be submitted to MS in advance of work starting on site, for acceptance, and works supervised whilst on site. All refuelling of the sub-contractor's equipment will be completed in a</li> </ul>

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 8 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant



## Method Statement

	<p>designated area at least 10 meters away from the watercourse and any connecting drains or channels.</p> <ul style="list-style-type: none"> <li>The majority of the tree and stump removal will be completed by traversing the downstream dam face close to the west side.</li> <li><b>All vehicle movements will be restricted to 10mph and be always completed under the supervision of a banksman.</b></li> <li>Wherever possible all vehicles are to drive into, and out of, site. <b>There will be no reversing at any point unless there is a designated banksman in attendance.</b></li> </ul> <div>  <div>No reversing without banks man</div> </div> <div>  <div>Observe the speed limit as specified on this site</div> </div> <ul style="list-style-type: none"> <li>The site working hours will be between 07:30 and 17:30 Monday to Friday. No weekend work is envisaged but where it is required it will be approved and authorised by the Morgan Sindall Project Manager.</li> </ul>
4.3.2	<p>Safety of Services</p> <ul style="list-style-type: none"> <li>Detailed health and safety procedures for working around services will be included in the main RAMS for the scheme and are omitted here for clarity.</li> </ul>
4.3.3	<p>Safety Works or Isolation Measures</p> <ul style="list-style-type: none"> <li>Working areas will be protected by suitable fencing / barriers. Protection from the public will be provided by Morgan Sindall as necessary. The fencing will be maintained by Morgan Sindall to prevent access during non - working hours. All excavations will be suitably protected at all times and secured out of hours. All fence panels to be double clipped at all times with relevant warning signage displayed as examples below.</li> </ul> <div>  <div>Danger Construction site hazardous area</div> </div> <div>  <div>Children must not play on this site</div> </div> <p><b><u>Edge protection:</u></b></p> <ul style="list-style-type: none"> <li>No free-standing barriers, whether galvanised or plastic are to be used for edge protection, these are for segregation purposes only.</li> </ul>

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 9 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Method Statement

	<ul style="list-style-type: none"> <li>Single leg barriers, connected as standard, plus 2 x Heras fence clips and also placed in Heras type rubber feet, must be used at all times to protect edges of excavations.</li> <li>All leading edges at the front and rear must be protected.</li> <li>Where barriers at the leading edge of the excavation have to be removed for the excavator to complete the dig, barriers fitted as mentioned above, must continue to the side of the excavator as a minimum and placed so access is not possible. When the excavator then needs to move away from the excavation, for however long, these barriers are pulled together and double clipped.</li> <li><b>Remember, if you can freely walk into an unprotected area at any time, then the edge protection is not good enough.</b></li> </ul>
4.3.4	Site office, welfare and first aid facilities
	<ul style="list-style-type: none"> <li>Full welfare facilities will be provided at the main compound for the duration of the project. These will consist of offices, canteens, drying rooms, meeting rooms, toilets, showers, stores and an outside smoking area. For further details please refer to the site-specific plan.</li> </ul>
<b>4.4</b>	<b>Interface Issues</b>
4.4.1	<p><i>The following measures will be implemented to protect the Workers and Public:</i></p> <ul style="list-style-type: none"> <li>Extensive pre-project consultation and meetings will take place to pro-actively address concerns of the public, local highways authority, local council and landowners who are affected by the proposed works.</li> <li>Consultation will remain open throughout the scheme duration with the residents, the local council, highways authority and all applicable stakeholders.</li> <li>Site Fencing / Security: - To prevent both Public and Workers accessing the main compound site as well as the construction site, vandalism to either workers equipment or the site.</li> <li>All vehicle movements will be marshalled by a banksman in and out of site.</li> <li>A photographic pre-condition survey will be undertaken of the approach roads and surrounding area that the construction works will be undertaken within.</li> <li>An Ordinary Water Consent (OWC) request is to be submitted to the local authority with construction drawings along with these RAMS.</li> <li>Impoundment Licence request will be submitted to NRW along with these RAMS.</li> </ul>
<b>4.5</b>	<b>Methodology</b>
4.5.1	<b>If any of the methodology or construction sequence detail below should change, STOP works immediately, make safe and report to the site supervision.</b>
4.5.2	<p><b>Preliminary Instructions</b></p> <ul style="list-style-type: none"> <li>Prior to entry onto site land entry will be agreed between the landowner and the DCWW estates team.</li> <li>Prior to starting work the site operatives will be briefed onto this Risk Assessment and Method Statement (RAMS), signing the briefing sheet to confirm that the methodology is understood and any control measures to reduce any associated risks to an acceptable level. Operatives will be tested on they're understanding by answering random questions.</li> </ul>

Document Reference		Process Parent	Rev Status	Doc Owner		Date	Page
SH1 FRM 04		SH PRO 1	Rev 01	Carole Bardell-Wise		Sept 2022	Page <b>10</b> of <b>33</b>
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail	Engineering Solutions	Magnor Plant

## Method Statement

	<ul style="list-style-type: none"> <li>Prior to any excavation work being undertaken a full CAT and Genny survey utilising the supplied STAT plans will be undertaken to identify any services located in the area and then a permit to excavate will be issued and authorised by the appropriate persons prior to any excavation. If required trial holes will be undertaken to find the location of any services.</li> <li>Main lifting on the project will primarily be undertaken by the on-site excavator. A valid lift plan will be completed by an authorised CPCS appointed person complete with a schedule of lifts. All slinging of equipment will be undertaken by a CPCS certified slinger/signaller. The excavator driver must also hold a valid CPCS card and be competent in the proposed works to be undertaken. All lifting chains and equipment will have current test certificates and shall display the current colour coded lifting tag. A copy of the test certificates will be held in the site file.</li> <li>A Delivery Lifting Plan &amp; Lorry Loader Checking Form must be completed prior to any delivery offloading on site and the supplier must also have a safe system of work for off-loading.</li> <li>All operatives will be given a toolbox talk to highlight any ecological constraints that maybe present (i.e. trees with potential for Bat roosts).</li> </ul>
4.5.3	<p><b><u>Safe zone with 360 excavators:</u></b></p> <ul style="list-style-type: none"> <li>Detailed health and safety procedures for working around 360 excavators will be included in the main RAMS for the scheme and are omitted here for clarity.</li> </ul>
4.5.4	<p><b><u>Sequence of works for all works in or near the Nant Clydach and reservoir</u></b></p> <p>The works will be constructed in accordance with the following sequence.</p> <ol style="list-style-type: none"> <li>1. Tree and hedge clearance.</li> <li>2. Set up working area – including mitigation measures.</li> <li>3. Inlet works isolation and water diversion to bywash channel.</li> <li>4. Installation of temporary silt lagoons and storm over pumping setup.</li> <li>5. Main dam breach excavation cut.</li> <li>6. Construction of new river channel.</li> <li>7. Inlet works modification, bywash isolation and backfill.</li> <li>8. Construction of new headwall for bywash under drains.</li> <li>9. Landscaping work to include:-             <ul style="list-style-type: none"> <li>o New pond scrapes</li> <li>o New access bridges.</li> <li>o Topsoil to all construction areas.</li> </ul> </li> </ol>
4.5.5	<p><b><u>1. Tree and hedge clearance:</u></b></p> <ul style="list-style-type: none"> <li>The site engineer will mark the trees to be removed prior to the sub-contractor turning up onsite. Tree surveys will have been completed to allow us to proceed with the removal.</li> <li>As stated previously tree and stump removal will be completed by an approved contractor in accordance with their own RAMS- and in line with Morgan Sindall Environmental Permit to Clear. If it is identified that any of trees have potential for Bat</li> </ul>

Document Reference		Process Parent	Rev Status	Doc Owner		Date	Page
SH1 FRM 04		SH PRO 1	Rev 01	Carole Bardell-Wise		Sept 2022	Page 11 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail	Engineering Solutions	Magnor Plant

## Method Statement

	<p>roosts then these will be soft felled under supervision from a suitably qualified ecologist. All vegetation removal will be undertaken in accordance with the reasonable avoidance measures outlined in the Bat Non-Licensed Method Statement P00009255 (APEM).</p> <ul style="list-style-type: none"> <li>All trees, once felled, will remove from the proposed access crossing and be chipped at a separate location to prevent any debris entering the nearby watercourse and causing an obstruction.</li> <li>Once all vegetation and clearance has been completed the banks of the stream will be cleared of any remaining material.</li> <li>The Morgan Sindall site supervisor will complete an inspection of the working area to ensure all vegetation and trees have been removed as required.</li> </ul>
4.5.6	<p><b><u>2. Set up working area – including mitigation measures:</u></b></p> <ul style="list-style-type: none"> <li>Heras fencing will be placed at the boundary of the existing tree canopy's, double clipped and display appropriate warning signs i.e. construction site keep out.</li> <li>The Heras fencing will then be connected to existing site fencing, or closed off, to prevent anyone gaining access to the site and vandalising/interfering with any mitigation measures installed.</li> <li>Where possible mitigation measures will be deployed prior to any hedge or tree clearance. However, if this is not possible due to access restrictions then they will be deployed after tree clearance and before excavation works.</li> <li>Two oil/silt booms will be installed in the Nant Clydach, across the width of the stream downstream of the proposed works and will be fixed in position in accordance with the manufacturer's instructions.</li> <li>Sedimat(s) will be installed downstream of the oil booms in accordance with the manufacture's instructions. The Sedimats are designed to capture any sediment that maybe disturbed during instream construction and therefore help prevent any pollution to aquatic habitats downstream. They are fixed to the stream bed and do not impede waterflow. They will be periodically inspected throughout the duration of the project and replaced with new ones when required. To prevent disturbance/leakage during removal and/or replacement additional Sedimats can be placed downstream.</li> <li>The booms and Sedimats will be closely monitored during the construction (and removal) of the bywash works/new spillway connection works and will be re-positioned and/or added to if necessary.</li> <li>Finally silt fencing will be installed to the banks of the stream to either side of the proposed crossing points prior to works that may affect the stream/ channel. This will help prevent silt laden surface water run off entering the Nant Clydach.</li> </ul>
4.5.7	<p><b><u>3. Inlet works isolation and water diversion to bywash channel.</u></b></p> <ul style="list-style-type: none"> <li>Pre-commencement checks will be completed by an Ecological Clerk of Works (ECoW) to identify any evidence of Otters immediately prior to commencement of the inlet isolation and diversion works.</li> <li>Prior to commencing, the inlet valves will be closed by DCWW diverting flows in to the bywash to enable the reservoir to be drained.</li> <li>1-ton bulk bags will be placed in front of the existing reservoir inlet valves to help with the diversion to the bywash channel and to facilitate the modification of the inlet structure. Should pumps be needed if the flows enter behind the sandbags a permit</li> </ul>

Document Reference		Process Parent	Rev Status	Doc Owner		Date	Page
SH1 FRM 04		SH PRO 1	Rev 01	Carole Bardell-Wise		Sept 2022	Page 12 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail	Engineering Solutions	Magnor Plant



## Method Statement

to pump will be issued. All pumping will be in accordance with the Morgan Sindall Permit to Pump with water discharged into the Nant Clydach.

- The temporary pump will be lifted into place from the access path alongside the bywash channel/watercourse using an excavator in accordance with an approved lift plan.
- Pipework will then be laid to a settlement tank (if required) placed away from the bank of the watercourse.
- The discharge pipework will be positioned in line with the existing flow however as the bywash is stone lined, no scouring will be created.



*Photo of head of bywash (left) and inlet structure*

4.5.8

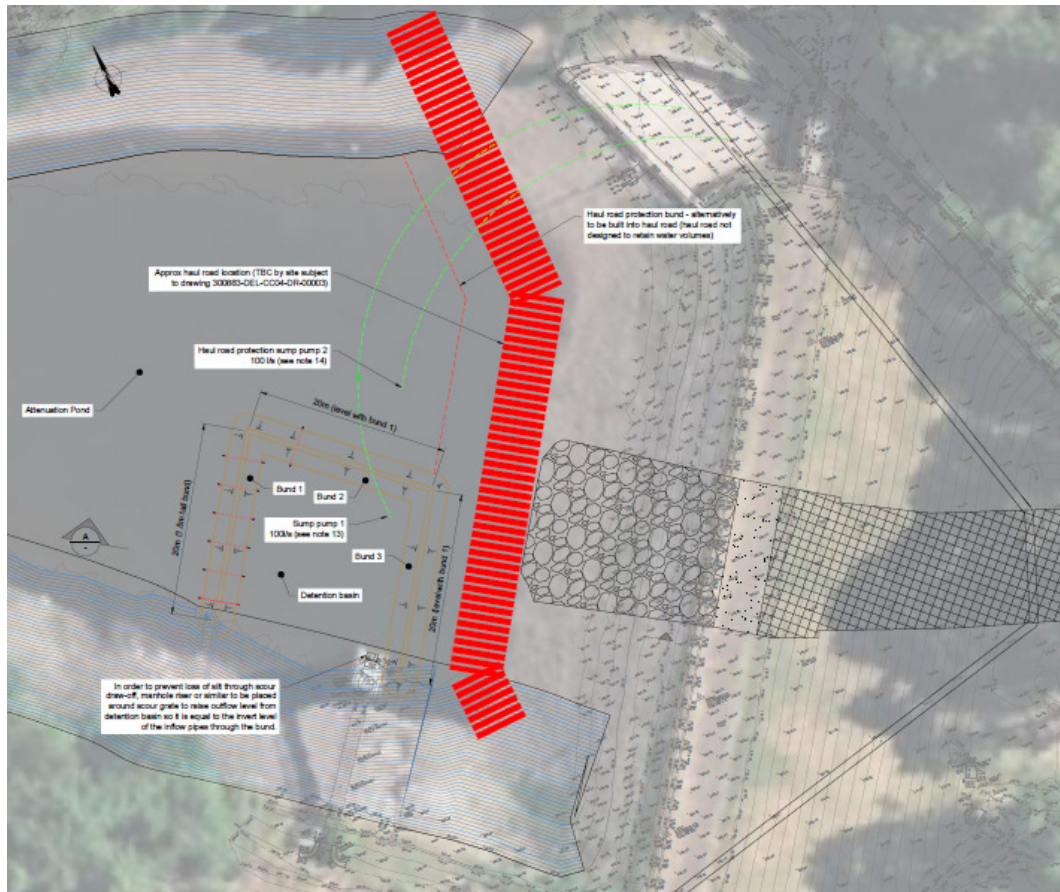
### **4. Installation of temporary silt lagoons and storm over pumping setup.**

- Prior to any works beginning on the dam construction a temporary silt lagoon will be set up with the capacity to pump during storm flows.
- This will be created within the existing reservoir now the majority of reservoir flows have been diverted to the existing bywash channel.
- The silt lagoon will be installed as per our approved temporary works design utilising material excavated from the dam.
- While this is being constructed, any water that enters the reservoir basin if necessary will be treated using a lamella settlement tank set up. See section 4.4.15 for lamella settlement tank setup.
- The lamella settlement tank will discharge under a discharge permit from NRW into the existing spillway/bywash channel and anticipated that a maximum discharge rate of 20l/s will suffice.
- Once the lagoons have been constructed, temporary storm pumping will be set up as per the agreed pumping rate of 1 x 100ltr per second. These will be electric pumps that will be running off a diesel generator located 10+ meters away from the watercourse and will consist of a duty and standby system.

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 13 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Method Statement

- The storm pumps will transfer surface water from the reservoir basin and into the spillway located to south- east side of the upstream dam face.
- Throughout the scheme, the main reservoir inflows will pass down the bywash channel. Remaining inflows and rainfall in to the reservoir basin will be controlled by the temporary bunding and use of the existing scour pipe with the addition of storm pumping. This is detailed in the scheme's Water Management Plan.



Extract of Morgan Sindall temporary works design for temporary bunding and access road.

### 4.5.9 **Installing/removing temporary haul road:** **Install temporary access road.**

- An access road will then be constructed within the existing reservoir basin crossing the wet face of the dam in accordance with the TWD.
- The access road will be constructed of Granular Subbase (GBS) type 1, compacted in layers.
- On completion of the stone placement silt fencing and timber baulks will be installed at the edge of the access road to prevent any surface water runoff from the road entering the reservoir (watercourse).
- The Temporary Works Co-ordinator (TWC) will then check that the access road has been installed in accordance with the TWD. Prior to this the Temporary Works

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 14 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Method Statement

	<p>Supervisor (TWS) will undertake they're own periodic checks to ensure construction is compliant with the design.</p> <p><b><u>Removal</u></b></p> <ul style="list-style-type: none"> <li>Once the main construction works are completed and the access road is no longer required it will be removed.</li> <li>The access road will be removed in the reverse that it was installed.</li> <li>The watercourse will then be reinstated to its new design prior to the removal of the silt lagoons and over-pumping.</li> </ul>
4.5.10	<p><b><u>5. Main dam breach excavation cut.</u></b></p> <ul style="list-style-type: none"> <li>Following on from the isolation/diversion works of the main watercourse into the existing bywash channel and the construction of the temporary lagoon/access road, works can now begin on the dam breaching excavation cut.</li> <li>An engineer will mark out the proposed cut to the dam face.</li> <li>2no. excavators will work from either side of the dam cut slowly excavating the material to be removed. This will be loaded onto 2no. tracked dumpers and taken to the new locations within the existing reservoir banks and material storage area before being reused in the bywash channel. Excavated material shall be separated and re-used in line with the site Materials Management Plan.</li> <li>While these works are being completed silt will be monitored and dealt with as described in <b>section 4.5.8</b>, so no silt enters the nearby water course.</li> <li>Excavation works will continue until the dam breach has reached the required levels to now construct the new river flow channel.</li> <li>Throughout the excavation work and lowering of the dam, water levels will be monitored in line with the Water Management Plan and Dam Safety management Plan to ensure that the safety of the dam is not compromised at any stage and contingencies are in place.</li> </ul>
4.5.11	<p><b><u>6. Construction of new river channel.</u></b></p> <ul style="list-style-type: none"> <li>The new river flow channel will start construction from the tie in location to the existing spillway channel. For this we will place 1-ton bulk bags along the existing spillway wall (Left hand side when looking up stream) to create a temporary dam off the water from entering near the planned wall removal. This work will be done during periods of dry weather so as to not compromise the capacity of the channel.</li> <li>These will be lined front and back with a thick dpm membrane so not to let any water pass through from the spillway and to help prevent and silt/concrete potentially entering from the working area.</li> <li>Once this have been set up to direct the flows away from the west wall a check on the water course fall will be done to prove we are not affecting the flows.</li> <li>The existing wall removal can begin and will be removed using a combination of excavator and concrete cutting with excavation for the new base completed by the excavator.</li> </ul>

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 15 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant



## Method Statement

- The wall will be made good, and the new concrete spillway apron will be poured to new river channel connection. This will be completed in dry weather so to not have any runoff of surface concrete into the water course.
- As soon as the concrete apron has been completed, the bulk bags shall be moved from the channel and on to the new concrete to provide protection during high water levels within the existing channel.



*Photo of exiting channel at tie-in location*

4.5.12

### **7. Inlet works and bywash/spillway infill.**

- On completion of the main dam breach cut excavation and new river channel construction works can now start on the inlet structure to the top of the reservoir which is behind the sandbags that are diverting the inlet flows to the bywash channel.
- The masonry and concrete wall to the existing footbridge is to be demolished to bed level and removed.
- All existing valves and pipes and steel fencing are to be removed.
- A new RC pad foundation to be installed for new foot bridge.
- The new foot bridge and handrailing can now be installed.
- Now all the inlet works are complete, removal of the temporary bunding shall be carried out.
- Flows to the bywash can now be diverted back to the reservoir basin by removing the bulk bags allowing the flows back through the remaining reservoir inlet structure.
- The bulk bags may now be deployed across the entrance to the bywash to divert water away from the working area to create the revetment and permanent plugging of the bywash.
- Site won masonry revetment will be formed against the upstream face of the existing bywash weir.
- Behind the weir will now be filled with clay from the dam core and 300mm layer of rip-rap will be installed on top.

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 16 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant



## Method Statement

- Works will continue with the bywash spillway drainage pipework and fill as per the design. It is proposed that the filling of the bywash channel will work from downstream upwards to minimise risk of polluting the watercourse. Any water that may be within the bywash channel shall be pumped locally around the works for discharge downstream using small suction pumps and silt socks if necessary.



*Photo of bywash channel*

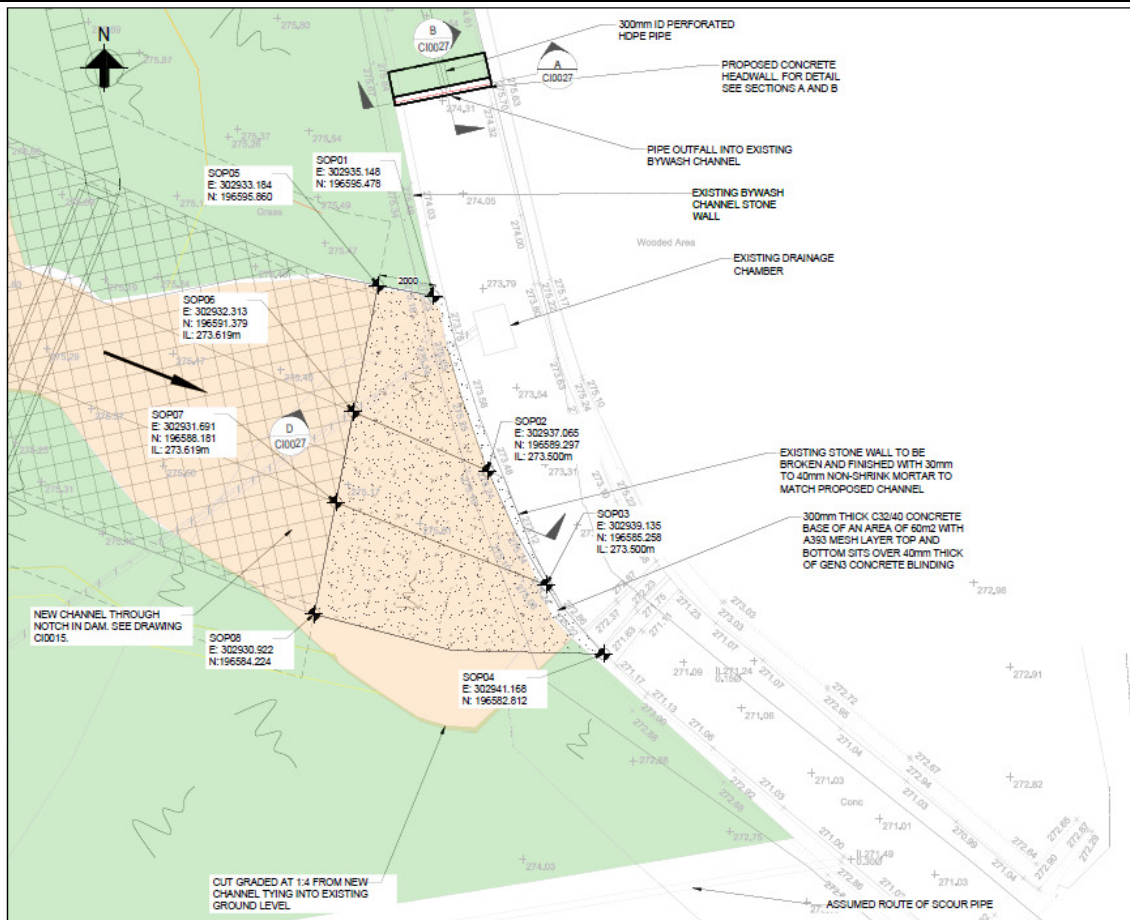
4.5.13

### **8. Construction of new headwall for bywash under drains**

- The headwall shall be constructed within the existing spillway channel, above the mouth of the new river channel.
- The existing concrete channel will be diamond cut and then broken out to the required size of the headwall, before being excavated to formation.
- The concrete headwall will be constructed in-situ and incorporate the bywash and spillway drainage pipes.
- Any water in the channel shall either be flumed through the work area or locally pumped downstream.

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 17 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Method Statement



Extract of drawing CI0027

### 4.5.14 **9. Landscaping and finishing work**

- Throughout the project there will be areas within 8m of the Nant Clydach that will be affected by earthworks and access. These areas will be made good by machine and topsoil replaced and seeded as early as possible. Where required coir matting may be used to help prevent washing/slippage of the topsoil.
- Prior to turning of flows through the reservoir basin and new river channel, the temporary bulk bags at the mouth of the new channel will be removed.
- On completion of the scheme, all silt and water management measures shall be removed from site.

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 18 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Method Statement

### 4.5.15 Lamella Settlement Tank Use

- In the case of water flows that range between 4 and 20m<sup>3</sup>/hr a lamella settlement tank (example below) will be utilised to treat and clean the water before it is discharged. Collected water is pumped from an attenuation pond through the plant unit where coagulant and flocculant chemicals are added to it to separate the suspended solids.
- The clean water can then be discharged into the watercourse while a separate attenuation pond is required for discharging the removed silt/sludge from the settlement unit. Samples of collected water are laboratory tested to ensure the correct mix of chemicals are used by the plant to remove silt from the water prior to commencing. Monitoring of the system will be undertaken to ensure optimum performance.
- It is anticipated that no more than 20/s will be required to be treated throughout the scheme.



Photo example of lamella settlement system

- An area would be created near to the draw off tower where the treatment system(s) and associated generator, pump, and IBCs containing the coagulant and flocculent chemicals will be situated.

### 4.6 Environmental Controls

- 4.6.1 Environmental controls will be those described in the Site Specific Plan/ Site Specific Induction and as detailed within the body of this RAMS.
- 4.6.2 All spills on-site will be managed in line with the Morgan Sindall Spill Response Plan. In the event of a spill on site, no matter how minor, site personnel must firstly find the

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page 19 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Method Statement

	<p>source of the spill and <b>Stop</b> it, then <b>Contain</b> it by using the equipment available in the Spill Response Kit. Then <b>Notify</b> the Agent, Foreman or Engineer of the details of the incident.</p> <p>In the event of an un-manageable spill on-site, site personnel can contact the group emergency response provider, Ideal Response, on the 24-hour hotline on 0808 239 9598.</p>		
<b>4.7</b>	<b>Contingency Plans</b>		
4.7.1	No special circumstances that are not covered already within the body of this RAMS.		
4.7.2	First Aid kits are available in the Site cabins and are also kept by appointed First Aiders.		
4.7.3	Damage to any statutory undertakers apparatus should be notified to relevant people using the following contact numbers:-		
	<b>Statutory Undertaker</b>	<b>Additional Info.</b>	<b>Number</b>
	Openreach (BT)	Urgent repairs and defective apparatus.	0800 023 2023
	Electric	Emergency	0800 052 0400
	Gas	Emergency	0800 111 999
	DCWW Pollution Helpline	Sewerage	08000 853968
	DCWW Control Room	General Enquiries	08000 520130

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page <b>20</b> of <b>33</b>
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

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## Method Statement

### Section 5 – Plant, Equipment

Match plant and equipment to qualified personnel and include any specific PPE details.

#### Plant and Equipment

Equipment description	Test Certificates in date (matched to equipment)	Operator details
Various sized 360 tracked Excavators	12 month thorough examination inclusive of quick hitch.	CPCS trained including lifting with excavators.
6t/9t Dumper	12 monthly	CPCS trained, full UK driving licence.
Lifting Equipment tagged and tested	6 monthly and inspected prior to use.	CPCS slinger/signaller.
Electric/Petrol Disc Cutter	Pre-inspection prior to use & manufactures Instructions for use	Abrasive wheels training.
Cat and Genny	12 monthly	Trained in use.
Bomag 120 Roller	12 monthly	CPCS trained.
Small Tools	Pre-inspection prior to use & manufactures Instructions for use	Skilled operatives.
Over-pumping including pumps, pipework and settlement tanks.	Pre-inspection prior to use & manufactures Instructions for use	Trained in use.
20t tracked dumpers	12 monthly	CPCS trained

#### Personal Protective Equipment (PPE)

Equipment description	Specification (e.g. type, grade)	Training required
<i>Fluorescent jackets or waistcoats</i>	<i>(to BS EN 471 Class 2) (Class 3 on high speed roads))</i>	
<i>Safety glasses or goggles</i>	<i>(to BS EN 166-F for general site work)</i>	
<i>Safety helmets</i>	<i>(to BS EN3 97)</i>	

Document Reference		Process Parent	Rev Status	Doc Owner		Date	Page
SH1 FRM 04		SH PRO 1	Rev 01	Carole Bardell-Wise		Sept 2022	Page <b>21</b> of <b>33</b>
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail	Engineering Solutions	Magnor Plant

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## Method Statement

Steel toe capped boots with steel midsole		
Gloves (appropriate for task)		
Other PPE as detailed within the body of this Risk Assessment and Method Statement (RAMS).		

### Section 6 – How environmental matters are controlled

Refer to prompts in the SHE Risk Assessment Form and project Register of Environmental Effects ([E FRM 01](#)).

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 04	SH PRO 1	Rev 01	Carole Bardell-Wise	Sept 2022	Page <b>22</b> of <b>33</b>
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

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Method Statement

Sketch box 1

**Temporary Works Design:**

Refer to drawing no: 300883-DEL-CC11-DR-00004

Sketch box 2

Document Reference		Process Parent	Rev Status	Doc Owner		Date	Page
SH1 FRM 04		SH PRO 1	Rev 01	Carole Bardell-Wise		Sept 2022	Page 23 of 33
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail	Engineering Solutions	Magnor Plant

I confirm that I have read and understand the requirements of this method statement and associated risk assessments and will ensure their communication to operatives under my control and to those who may be affected by its requirements

<b>Signed</b>		<b>Date</b>	
<b>Print name</b>		<b>Supervisor</b>	

Communicate the contents of the Method Statement to all those involved or affected by the works and record their details below.

[illegible]

1. If you have any doubt about any information given or contained in this Method Statement – ASK FOR CLARIFICATION.

Document Reference		Process Parent	Rev Status	Doc Owner		Date	Page
SH1 FRM 04		SH PRO 1	Rev 01	Carole Bardell-Wise		Sept 2022	Page <b>24</b> of <b>33</b>
Applies to:	Aviation	Energy and Water	Highways	Nuclear	Rail	Engineering Solutions	Magnor Plant

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## Safety, Health and Environment risk assessment

<b>Project title and contract no.</b>		Impoundment Licence and Ordinary Watercourse Consent (OWC).		<b>Risk assessment no.</b>		1W7000/6478		<b>Risk Factor</b>																																				
<b>Activity</b>		Ordinary Watercourse Consent (OWC).		<b>Location</b>		Clydach Reservoir –		<table border="1"> <tr> <td rowspan="5"><b>Risk Quantity</b></td> <td>No injury, damage or environment impact</td> <td>Minor injury, damage or environment impact</td> <td>Major injury, damage or environment impact</td> <td>Fatality, building loss, catastrophic environment impact</td> </tr> <tr> <td>Almost no probability</td> <td>A</td> <td>A</td> <td>A</td> <td>U</td> </tr> <tr> <td>A small probability</td> <td>A</td> <td>A</td> <td>U</td> <td>U</td> </tr> <tr> <td>A high probability</td> <td>A</td> <td>U</td> <td>U</td> <td>U</td> </tr> <tr> <td>Almost certain</td> <td>A</td> <td>U</td> <td>U</td> <td>U</td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2">Acceptable</td> <td colspan="2">Unacceptable</td> </tr> </table>		<b>Risk Quantity</b>	No injury, damage or environment impact	Minor injury, damage or environment impact	Major injury, damage or environment impact	Fatality, building loss, catastrophic environment impact	Almost no probability	A	A	A	U	A small probability	A	A	U	U	A high probability	A	U	U	U	Almost certain	A	U	U	U							Acceptable		Unacceptable	
<b>Risk Quantity</b>	No injury, damage or environment impact	Minor injury, damage or environment impact	Major injury, damage or environment impact	Fatality, building loss, catastrophic environment impact																																								
	Almost no probability	A	A	A	U																																							
	A small probability	A	A	U	U																																							
	A high probability	A	U	U	U																																							
	Almost certain	A	U	U	U																																							
						Acceptable		Unacceptable																																				
<b>Person conducting assessment</b>		Max Davies		<b>Date</b>		16/10/2024																																						
<b>Person supervising work</b>		Max Davies		<b>Date</b>		16/10/2024																																						
<b>Persons exposed</b>																																												
<b>Employees</b>	<input checked="" type="checkbox"/>	<b>Other workers</b>	<input checked="" type="checkbox"/>	<b>Public/ visitors</b>	<input checked="" type="checkbox"/>	<b>Young persons</b>																																						
<b>New / expectant mothers</b>				<b>Disabled</b>		<b>Others</b>																																						
<b>Estimated total number of persons at risk</b>		10 – 15																																										
<b>Hazards (what might cause harm?)</b>		<b>S</b>	<b>H</b>	<b>E</b>		<b>S</b>	<b>H</b>	<b>E</b>																																				
1	Adverse weather conditions	✓		✓	27	Structure																																						
2	Cold	✓	✓		28	Temporary Works*	✓		✓																																			
3	Electricity				29	Vehicle / mobile equipment																																						
4	Excavation/earthworks	✓	✓	✓	30	Working hours / fatigue*																																						
5	Fire / flammable atmosphere				31	Workstation design																																						
6	Floor / ground conditions	✓	✓		32	Work at height																																						
7	Flying particle / dust				33	Archaeology																																						
8	Hand or power tool	✓	✓		34	Concrete washout	✓		✓																																			
9	Hazardous substance*				35	Consents, permits and planning conditions																																						
10	Heat / hot work				36	Contaminated land																																						
11	Lack of experience				37	Designated protected areas e.g. SSSI,																																						
12	Lack of training				38	Dewatering	✓		✓																																			
13	Lack of / too much oxygen				39	Energy and carbon reductions	✓		✓																																			
14	Access				40	Fuel – deliveries, storage, bunds, refuelling	✓		✓																																			
15	Lifting equipment appliances	✓	✓		41	Invasive species																																						
16	Lighting				42	Nuisance (dust, mud, noise, light, vibration)			✓																																			
17	Lone working*				43	Protected species			✓																																			
18	Loading / unloading				44	Protection of watercourses	✓		✓																																			
19	Live services				45	Public rights of way, easements etc.																																						
20	Materials			✓	46	Silt generation	✓	✓	✓																																			
21	Moving parts of machinery				47	Site drainage – interceptors, drains,																																						

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 03	SH PRO 01	Rev 01	Carole Bardell-Wise	Nov 2022	Page 25 of 33
Applies to:	Aviation	Energy Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

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## Safety, Health and Environment risk assessment

22	Proximity to water	✓	✓	✓	48	Spillage (controls / response)		✓	Additional 'human factors' such as ergonomics, workplace design, etc. should also be considered 7. Where a hazard is identified that is not listed in the Physical Hazards list, enter the hazard description followed by other in brackets i.e. (Other) 8. * indicated a separate specific Risk assessment must be carried out.
23	Scaffold				49	Trees and hedgerows		✓	
24	Sharp objects				50	Waste disposal and documentation			
25	Stairs / steps				51	Waste generation, storage and segregation			
26	Static equipment / machinery				52	Other			

Hazard no. (from page 1)	Nature of risk (What might go wrong?)	Risk before controls U / A	Control measures (How do you stop it going wrong?)	Control measure implemented by (name)	Risk after controls U / A
1, 4, 44	High levels of suspended solids in water resulting in pollution of downstream water courses	U	<ul style="list-style-type: none"> <li>Bunds to be utilised to create stilling ponds to slow down water flows to encourage silts to be dropped out of suspension within reservoir.</li> <li>Use of impounded water to reduce the scour affect from the incoming water sources.</li> <li>Installation of sedimats in downstream channel to help capture sediment.</li> <li>Use of silt fencing to capture surface run off from works.</li> <li>Regular inspection of water quality to be carried out and where necessary maintain and/or replace the mitigation methods.</li> <li>Works to be undertaken out of flows where possible.</li> <li>Localised pumping/diversion of water to prevent contamination.</li> </ul>	Morgan Sindall	A

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 03	SH PRO 01	Rev 01	Carole Bardell-Wise	Nov 2022	Page 26 of 33
Applies to:	Aviation	Energy Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Safety, Health and Environment risk assessment

1, 4, 44	High levels of suspended solids in the water from rainfall into the reservoir basin entering being discharged.	U	<ul style="list-style-type: none"> <li>Bunds to be utilised to create stilling ponds to slow down water flows to encourage silts to be dropped out of suspension.</li> <li>Use of impounded water to reduce the scour affect from the incoming water sources.</li> <li>Regular inspection of water discharge quality.</li> </ul>	Morgan Sindall	A
40, 44, 48	Pollution of waters from pumping and plant operations from fuels and oils.	U	<ul style="list-style-type: none"> <li>Plant to use biodegradable oils where possible.</li> <li>Plant to be inspected for leaks prior to commencing works each day.</li> <li>Use of plant nappies and bunds to help prevent and contain any pollution.</li> <li>Operatives trained in spill response.</li> <li>Spill response kits and oil booms available onsite.</li> <li>In the event of a pollution, cease discharges from the reservoir.</li> <li>Refuelling operations undertake outside of reservoir basin where possible.</li> <li>Minimise chemical quantities within proximity to watercourses.</li> </ul>	Morgan Sindall	A

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 03	SH PRO 01	Rev 01	Carole Bardell-Wise	Nov 2022	Page 27 of 33
Applies to:	Aviation	Energy Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Safety, Health and Environment risk assessment

20, 34, 48	Pollution of water or ground from concrete works.	U	<ul style="list-style-type: none"> <li>• Temporary bunding to prevent concrete contact with water courses.</li> <li>• Concrete washout to be in a designated controlled area.</li> <li>• Use of drier mix designs where possible.</li> </ul>	Morgan Sindall	A
22,43, 44, 48	Environmental threat:  Contamination of ground, or water, resulting in an environmental incident, pollution, adverse effect on habitats and/or potential prosecution.	U	<ul style="list-style-type: none"> <li>• Temporary Works Design (TWD) has been completed for the installation of a temporary bund by competent designers.</li> <li>• TWD installation to be checked by TWS and signed off by TWC.</li> <li>• Ordinary Watercourse Consent (OWC) applied for with the local authority.</li> <li>• Safe system of work as detailed within these RAMS.</li> <li>• Pre-commencement checks of watercourse banks for evidence of Otters etc. by ECoW.</li> <li>• Mitigation measures to prevent the release of silt downstream e.g. silt fencing and/or sedimats.</li> <li>• Stream to be over-pumped via a settlement tank whilst work is completed within the stream bed.</li> <li>• Operatives trained in spill response training.</li> </ul>	Morgan Sindall	A

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 03	SH PRO 01	Rev 01	Carole Bardell-Wise	Nov 2022	Page 28 of 33
Applies to:	Aviation	Energy Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Safety, Health and Environment risk assessment

			<ul style="list-style-type: none"> <li>• Spill kits available on site.</li> <li>• Plant nappy to be used under all stationary plant and equipment.</li> <li>• Weather forecast to be reviewed and work will only commence in favourable conditions.</li> <li>• 1 tonne bags to be placed such that flow can weir over to prevent flooding upstream.</li> <li>• Tree removal before bird nesting season.</li> </ul>		
43	Construction works affecting wildlife.	U	<ul style="list-style-type: none"> <li>• Silt management systems to be installed and maintained.</li> <li>• Ecologist supervision prior to works and as required throughout.</li> <li>• Excavations to be either covered or have means of escape for animals e.g. ramp.</li> <li>• Works to be undertaken during daylight hours wherever possible.</li> </ul>	Morgan Sindall	A
38, 44	Failure of temporary pump systems result in reservoir levels rising that could affect dam safety.	U	<ul style="list-style-type: none"> <li>• Weather conditions to be monitored.</li> <li>• Duty and assist pumps and generators.</li> <li>• Telemetry and auto change-over systems will call out in place.</li> </ul>	Morgan Sindall	A

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 03	SH PRO 01	Rev 01	Carole Bardell-Wise	Nov 2022	Page 29 of 33
Applies to:	Aviation	Energy Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant



## Safety, Health and Environment risk assessment

			<ul style="list-style-type: none"> <li>Escalation process in place with DCWW and QCE.</li> </ul>		
22, 44	Members of public and/or unauthorised persons gaining access to the site and vandalising environmental protection measures.	U	<ul style="list-style-type: none"> <li>Heras fencing to be placed around working area and double clipped to prevent un-authorised access.</li> <li>Heras fencing to display appropriate warning signs.</li> <li>Silt protection measures to be installed and fixed in accordance with manufactures instructions.</li> <li>CCTV security on site to prevent and report any unauthorised access.</li> </ul>	Morgan Sindall	A
44	Use of chemical for treatment of silty water affecting water quality.	U	<ul style="list-style-type: none"> <li>Water treatment system to be designed and installed by specialist supplier.</li> <li>Water quality to be monitored daily along with chemical usage.</li> <li>Minimum quantity of chemicals to be used for coagulation and flocculation.</li> </ul>	Morgan Sindall	A

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 03	SH PRO 01	Rev 01	Carole Bardell-Wise	Nov 2022	Page 30 of 33
Applies to:	Aviation	Energy Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Safety, Health and Environment risk assessment

4	Excavations and earthworks resulting in sediment laden surface water run off causing a pollution.	U	<ul style="list-style-type: none"> <li>Silt prevention methods to be established around site at key locations.</li> <li>Topsoil to remain in place for as long as possible and minimum areas stripped.</li> <li>Divert surface water run off away from direct to water course if possible.</li> <li>Earthworks to be undertaken to minimise potential for creation of silt laden run off.</li> <li>Spoil to be stored away from watercourses and flow paths.</li> <li>Topsoil to be replaced as soon as possible and seeded. Use of coir rolls where needed to minimise risk of surface water run-off.</li> </ul>	Morgan Sindall	A
31	Refuelling of machines resulting in pollution.	U	<ul style="list-style-type: none"> <li>Refuelling operations undertake outside of reservoir basin where possible and away from watercourses.</li> <li>Minimise chemical quantities within proximity to watercourses. Spill response kits available at all times and around any potential pollution areas i.e. surface drains/ run off channels that connect to the river</li> </ul>	Morgan Sindall	A

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 03	SH PRO 01	Rev 01	Carole Bardell-Wise	Nov 2022	Page 31 of 33
Applies to:	Aviation	Energy Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

## Safety, Health and Environment risk assessment

						<ul style="list-style-type: none"> <li>All refuelling operations to be undertaken in designated areas using a plant nappy</li> <li>COSHH materials to be stored within bunded COSHH cages as far as practicably possible away from any water course.</li> <li>Refuelling operations must always be manned, never left alone, or never left with fuel trigger jammed open.</li> <li>Check hoses and valves regularly for signs of wear and re-new as and when required.</li> <li>If a spill should occur please use the following STOP, CONTAIN and NOTIFY.</li> </ul>										
Method Statement required?		Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Method Statement number:		1W7000/6478								
Additional Risk Assessment (Tick box as required)						PPE (Tick box as required)										
Noise	X	COSHH	<input type="checkbox"/>	Handling	<input type="checkbox"/>	Lone Worker	<input type="checkbox"/>	Helmet Safety Boots LEP Gloves	<b>Mandatory</b>	High Vis Protective Clothing	Upper body	X	Specialist Gloves	<input type="checkbox"/>	Harness	<input type="checkbox"/>
											Full Body	<input type="checkbox"/>				
Asbestos	<input type="checkbox"/>	Lead	<input type="checkbox"/>	Radiation	<input type="checkbox"/>	Temporary Works	<input type="checkbox"/>	RPE	<input type="checkbox"/>	Specialis t Clothing	Thermal Flame Retardant	<input type="checkbox"/>	High Impact Eye protection	<input type="checkbox"/>	Others Specify	<input type="checkbox"/>
								Hearing	X							
						Name		Signature				Date				

Document Reference	Process Parent	Rev Status	Doc Owner	Date	Page
SH1 FRM 03	SH PRO 01	Rev 01	Carole Bardell-Wise	Nov 2022	Page 32 of 33
Applies to:	Aviation	Energy Water	Highways	Nuclear	Rail
				Engineering Solutions	Magnor Plant

Safety, Health and Environment risk assessment

Person completing the assessment:	Max Davies		16/10/2024
Person reviewing the assessment:	Simon Fisher		17/10/2024
Date to be reviewed:	16/10/2025		

Document Reference		Process Parent	Rev Status	Doc Owner		Date	Page
SH1 FRM 03		SH PRO 01	Rev 01	Carole Bardell-Wise		Nov 2022	Page 33 of 33
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